What is claimed is:

1. A radio frequency device having an antenna embedded in a rubber material for operation in a frequency range of at least 130 MHz, comprising:

a radio frequency device;

an antenna body; and,

an insulating coating surrounding at least the antenna body, the insulating coating having a dielectric constant less than a dielectric constant of the rubber material.

2. The radio frequency device as claimed in claim 1, wherein the coating is at least 0.02 mm thick.

3. The radio frequency device as claimed in claim 2, wherein the coating is at least 0.1 mm thick.

4. The radio frequency device as claimed in claim 1, wherein the coating is formed of parylene and is at least 0.015 mm thick.

5. The radio frequency device as claimed in claim 1, wherein dielectric constant of the insulating coating is less than 3.

6. The radio frequency device as claimed in claim 1, wherein the coating material has a surface resistivity of at least 10^{12} ohms/sq, a volume resistivity of at least 10^{9} ohms*cm, and a dissipation factor less than 0.03.

7. The radio frequency device as claimed in claim 1, wherein the coating material is selected from a group comprising electrical shrink tubing, thermoplastic polycarbonate, butadiene rubber, low carbon rubber, isocyanate based adhesive, polyethylene, insulating varnish, epoxy, TPE cellulose acetate, parylene, and insulating polyester varnish.

8. The radio frequency device as claimed in claim 1, wherein the rubber material forms a patch for attaching to a surface of a tire.

9. The radio frequency device as claimed in claim 1, wherein the rubber material forms a portion of the tire.

10. A tire having a radio frequency device with an antenna integrated therein, the tire comprising a carcass reinforcement and rubber material layers applied to said carcass, the antenna comprising:

a radio frequency device which operates at a frequency of at least 130 MHz;

an antenna body connected to the radio frequency device; and,

an insulating coating surrounding at least the antenna body, the insulating coating having a dielectric constant less than a dielectric constant of the rubber material layers.

11. The tire having a radio frequency device as claimed in claim 10, wherein the insulating coating is at least 0.02 mm thick.

12. The tire having a radio frequency device as claimed in claim 10, wherein the insulating coating is at least 0.1 mm thick.

13. The tire having a radio frequency device as claimed in claim 10, wherein dielectric constant of the insulating coating is less than 3.

14. The tire having a radio frequency device as claimed in claim 10, wherein the coating material has a surface resistivity of at least 10^{12} ohms/sq, a volume resistivity of at least 10^{9} ohms*cm, and a dissipation factor less than 0.03.

15. The tire having a radio frequency device as claimed in claim 10, wherein the coating material is selected from a group comprising electrical shrink tubing, thermoplastic polycarbonate, butadiene rubber, low carbon rubber, isocyanate based adhesive, polyethylene, insulating varnish, epoxy, TPE cellulose acetate, parylene, and insulating polyester varnish.

16. The tire having a radio frequency device as claimed in claim 15, wherein the coating material is parylene and the coating has a thickness of at least 0.15 mm.

17. The tire having a radio frequency device as claimed in claim 10, wherein the antenna is embedded in a rubber patch adhered to a surface of the tire.

18. The tire having a radio frequency device as claimed in claim 10, wherein the antenna is embedded in a structural portion of the tire.

19. The tire having a radio frequency device as claimed in claim 10, wherein the coating is formed by a rubber material layer of the tire.

20. A tire having a radio frequency device integrated therein, the tire comprising a carcass reinforcement and rubber material layers applied to said carcass, the radio frequency device comprising:

a radio device which operates at a frequency of at least 130 MHz;

an antenna body connected to the transponder; wherein,

the rubber material layer in which the antenna is embedded has a dielectric constant less 3, a surface resistivity of at least 10^{12} ohms/sq, a volume resistivity of at least 10^{9} ohms*cm, and a dissipation factor less than 0.03.

21. A method for embedding a radio frequency antenna in a tire, comprising the steps of:

forming an antenna element;

coating the antenna element with an insulating coating, the coating having a dielectric constant lower than a dielectric constant of the elastomeric material, the coating being formed at least 0.02 mm thick; and,

embedding the coated antenna element in an elastomeric material for integration with the tire.

22. The method as claimed in claim 21; wherein, the coating material has a surface resistivity of at least 10^{12} ohms/sq, a volume resistivity of at least 10^{9} ohms*cm, and a dissipation factor less than 0.03.

23. The method as claimed in claim 21, wherein the coating material has a thickness of at least 0.1 mm.

24. The method as claimed in claim 21, wherein the coating material is selected from a group comprising electrical shrink tubing, thermoplastic polycarbonate, butadiene rubber, low carbon rubber, isocyanate based adhesive, polyethylene, insulating varnish, epoxy, TPE cellulose acetate, parylene, and insulating polyester varnish.

25. The method as claimed in claim 21, further comprising the step of tuning the antenna for resonant frequency for the elastomeric material.

26. The method as claimed in claim 21, wherein the elastomeric material is a rubber patch, and further comprising the step of adhering the patch to a surface of a tire.

27. The method as claimed in claim 21, wherein the elastomeric material is a portion of a tire.